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LIBRARY OF CONGRESS INFORMATION BULLETIN

Vol. 35, No. 6 February 6, 1976

The Library of Congress will observe **Washington's Birthday** as a holiday on Monday, February 16. The Congressional, Main, Annex, Law Library, Local History and Genealogy, Microform, Newspaper and Current Periodical, Science, and Slavic Reading Rooms and the National Union Catalog will be open from 8:30 a.m. to 5 p.m. Study facilities will also be open. The Serial Record Division will provide telephone reference service between 8:30 a.m. and 5 p.m. All other divisions and offices will be closed.

Regular Saturday and Sunday service will be provided on February 14 and 15.

The Library's exhibition halls will be open from 8:30 a.m. to 6 p.m.

TOKYO STRING QUARTET TO PERFORM HAYDN, BARTÓK, AND RAVEL

The Tokyo String Quartet will perform a concert of chamber music at the Library of Congress on Friday evening, February 13. The Corcoran Gallery has loaned for this performance its quartet of Amati instruments dating from between 1656 and 1677. They will be played by quartet members Koichiro Harada and Kikuei Ikeda, violins; Kazuhide Isomura, viola; and Sadao Harada, violoncello. The Tokyo String Quartet was founded under the direction of Raphael Hillyer, former violist of the Juilliard String Quartet.

The program, sponsored by the Gertrude Clarke Whittall Foundation in the Library, will include Quartet in C major, Op. 76, No. 3, H.III:77 by Joseph Haydn; Quartet No. 3 by Béla Bartók; and Quartet in F major by Maurice Ravel.

The concert will begin promptly at 8:30 p.m. in the Coolidge Auditorium of the Library. Tickets for the program will be distributed by Patrick Hayes, 1300 G St., N.W., beginning at 8:30 a.m., Monday, February 9. A service charge of 25 cents is placed on each ticket, and only two tickets are distributed to an individual. Telephone reservations may be made on Monday morning by calling 393-4463. Mail orders are not accepted.

The concert will be broadcast live and in its entirety by radio station WETA-FM, and will be made available to stations in other cities through the Katie and Walter Louchheim Fund in the Library of Congress.

WATER, WATER, EVERYWHERE

The new year has not been kind to the Cataloging Distribution Service Division or to Building 159 at the Washington Navy Yard. Twice since the year began, the division has been inundated, once when a water pipe burst and a second time when a filter system failed.

The first inundation took place early on New Year's Day when a 3/4-inch water pipe under 100 pounds of pressure ruptured on the second floor. Water flowed freely for several hours before the break

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was discovered and repaired. Although the loss of man-hours, materials, and processing time was considerable, none of the bibliographic material, customer orders, or vital equipment was damaged. After a few days, operations were back to normal.

The second flood occurred in the early hours of January 18 when a photographic laboratory filter system failed and water under 80 pounds of pressure again flowed freely for several hours. Damage to material was extensive in this second mishap. Twenty-three sets of newly printed titles consisting of Chinese, Japanese, Korean, South Asian, film, and regular cards were damaged by water and will require reprinting. The series order file was completely saturated and must be dried out and reassembled before it can be used. A number of typewriters and business machines and a keypunch machine must be repaired or replaced. Though there will be delays in the delivery of series orders, some new card sets, and regular card orders, no major problems are apparent.

The Cataloging Distribution Service Division is located in a building in the old Washington Navy Yard which is also occupied by other Government agencies. Although the deluges were in no way the fault of the Library of Congress, the Library has, nevertheless, sustained losses in time and money, and other libraries will experience regrettable delays in the filling of their card orders.

FCU DIVIDEND INCREASED

On January 9, a story in the *Information Bulletin* announced that the Library of Congress Federal Credit Union declared a 6 1/4 percent dividend for the quarter ending December 31, 1975.

On January 16, the quarterly statements were mailed to nearly 4,000 members and to the amazement of Credit Union officials a 6 1/2 percent dividend was paid on all accounts.

A Credit Union official explained that individual accounts are maintained by a computer service company in Baltimore and that someone had incorrectly programmed the computer to post the higher dividend. The official said that the service company has had an excellent record of maintaining the accounts accurately during the past eight years and added that "this is one of those unfortunate situations where the computer did exactly what it was told."

The Board of Directors of the Credit Union met on January 30 to review the problem. Because income was higher and expenses were lower than anticipated for the month of December, the Board of Directors corrected the error by adjusting the dividend for the fourth quarter of 1975 to 6 1/2 percent–a record high dividend for the Library's Credit Union.

CONSUMER GUIDES LISTS LIBRARY SERVICES

The Library of Congress is included in the 1976 edition of the *Guide to Federal Consumer Services*, recently published by the Office of Consumer Affairs of the U.S. Department of Health, Education, and Welfare. Services offered by the Library's Division for the Blind and Physically Handicapped, Copyright Office, Science and Technology Division's National Referral Center for Science and Technology, and General Reference and Bibliography Division are discussed in the guide and addresses and telephone numbers are provided.

The Office of Consumer Affairs helps to create Federal programs to assist consumers, coordinates the Federal response to consumer demands, and encourages recognition of consumer needs by Federal agencies. In response to consumer requests, the *Guide to Federal Consumer Services* was revised and updated and is available free upon request to HEW, Office of Consumer Affairs, Washington, D.C. 20201.

STAFF NEWS

RETIREMENT

William E. Davis, assistant chief for technical services in the Photoduplication Service, retired from the Library of Congress on January 2 after more than 37 years of Government service. Mr. Davis began his Library career in April 1938, the second staff member of the newly established Photoduplication Service. His work in the Library was interrupted during the period November 1941 through December 1946 when he served with the U.S. Navy as chief petty officer. On Mr. Davis' return to the Library, he was appointed to the position of head of the Photoduplication Laboratory, a position he held until designated assistant chief for technical services in August 1972.

At a reception held in the Whittall Pavilion on December 30, 1975, the Librarian of Congress, Daniel J. Boorstin, presented Mr. Davis with a Superior Service Award in recognition of his efforts in "developing and maintaining the Library of Congress Photoduplication Service's deserved reputation as a producer of high quality photoreproduction of library materials." Mr. Croxton, director of the Administrative Department, presented Mr. Davis with a retirement certificate, following which his friends at the Library gave him a retirement gift.

Mr. Davis is congratulated by Charles G. LaHood, Jr., chief of the Photoduplication Service, as Mrs. Davis looks on.

PERSONNEL CHANGES

Elliott C. Finley has been named chief of the Central Services Division. He succeeds Ida F. Wilson, who retired last November.

Appointed to the staff in 1955, all of Mr. Finley's Library service has been in the Central Services Division. He has served as records analyst, head analyst of the Paperwork Management Section, head of the Central Services Section, and assistant chief of the division.

Mr. Finley has received numerous awards. In November 1961, he received an Outstanding Performance Rating and was presented a Meritorious Service Award in January 1961 for his outstanding leadership qualities in the supervision and coordination of the work of the Paperwork Management Section. In March 1966, Mr. Finley received a Meritorious Service Award and in June 1975 a cash award for his expeditious and economic dissemination of administrative documents and publications.

Mr. Finley attended Randolph Macon College and American University.

Appointments: Derek Conley, telecommunications attendant trainee, GS-4, CS, 1468; Nguyen T. B. Lan Cumbie, library technician, GS-5, Ser Rec, 1433; Judy German, analyst, American national government, GS-12, CRS GGR, 1389; Anne Greene, clerk-typist, GS-4, Loan, 1398; Charles Hillis, serials collection and distribution assistant, GS-3, CRS L, 1426; Ana Prat, paperwork management assistant, GS-5, CS, 1462; Rosaline Seabrook, clerk-typist, GS-4, Cop Reg, 1453.

Temporary Appointment: Margaret Hay, chemist, GS-11, R&T, NP.

Reappointments: Carolyn Hatcher, reference assistant, GS-5, CRS F, 1428; Frank J. Williams, III, senior deck attendant, GS-4, S&R, NP.

Promotions: Hugh Coley, to mail supply clerk, GS-5, CS, 1448; Richard Greenfield, to legal processing assistant, GS-7, LL Eur, 1465; Robert Hoyer, to specialist in health policy, GS-16, CRS Ed, 1492; Monica Humphrey, to preparation assistant, GS-5, Mss, 1449; Barbara Maddox, to administrative assistant, GS-9, Desc Cat, 1366; Charles Ovaitt, CRS D, to newspaper processor, GS-4, Ser, 1383; Mary Williams, Cop Serv, to clerical assistant, GS-5, Cop Cat, 1451.

Transfer: Frances Ritchings, Trng, to librarian, GS-9, CRS C, 1507.

Resignations: Lemuel Adams, S&R; James Antonellis, Place & Class; Donovan Gay, CRS GGR; Neil McDonald, LL NEA; William Rutledge, Jr., DBPH; Christina Tisdale, Photodup; Deborah Toomey, DBPH; Mark Weiner, Cop Serv; Rejineta Wilson, Cat Publ; Paul Winick, Desc Cat.

Correction: The following appointments were incorrectly announced in the January 23 *Information Bulletin:* Delores Clipper, MARC monograph editor/input operator, GS-5, MARC Ed, 1204; MaryAnn DiNuzzo, MARC monograph editor/input operator, GS-5, MARC Ed, 1204; Evelyn Workman, MARC monograph editor/input operator, GS-5, MARC Ed, 1204.

SPECIAL POLICE COMPLETE FIRST TRAINING COURSE

The first members of the Special Police Force to complete the in-service training program which was developed jointly by the Protective Services Section and the Training Office were graduated on January 21. They are (seated, left to right) Royce Moon, Truman Theofield, Manuel Taxiera, Patricia Muse, Peter McGrath, and Charles Lemley; (standing, left to right) Dennis McCain, George Martin, Ricardo Prout, James Butler, Jimmy Newell, Charles Tayman, Thomas McGuire, and Dimitri Traicoff. A complete account of the training course appeared in the January 16 *Information Bulletin* on p. 41.

ANNOUNCEMENT

On Friday, February 6, the **Library of Congress Professional Association** will present a film entitled "Visit to Aal." This 19-minute color film is an introduction to the work of Rolf Nesch photographed at the artist's mountain studio in Norway. The film follows the printmaking process from first etching plate to removal of the print from the press. It also includes examples of Nesch's sculpture and his metal prints, which he created through his own process. Exhibits Officer Herbert Sanborn will provide a short introduction to the film. All interested persons are invited to attend this program in the Page School, Room 324A, from 11:45 a.m. to 12:15 p.m.

LIBRARY OF CONGRESS PUBLICATIONS

Accessions List: India. ISSN 0041-7734. Vol. 15, No. 1. January 1976. (pp. 1-63). Continuing subscriptions free to libraries upon request to the Field Director, Library of Congress Office, American Embassy, New Delhi, India.

Accessions List: Nepal. ISSN 0090-3744. Vol. 10, No. 2. December 1975. (pp. 15-72). Including cumulative author and subject indexes. Continuing subscriptions free to libraries upon request to the Field Director, Library of Congress Office, American Embassy, New Delhi, India.

LC Science Tracer Bullet: Liquid Crystals. ISSN 0090-5232. (TB 75-13). November 1975. (7 p.) Compiled by Y. Y. Liu, this reference aid provides a guide for systematically searching the literature on "liquid crystals, with emphasis on their technological and scientific applications. Liquid crystals are neither true liquids nor true crystals but rather intermediate and distinct phases of matter (mesophases)." Copies are available free from the Reference Section, Science and Technology Division, Library of Congress, Washington, D.C. 20540.

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APPENDIX

REPORT ON THE 38TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR INFORMATION SCIENCE Boston, Mass., October 26-30, 1975

[Editor's Note: The following report was prepared by Morton H. Friedman, S. Branson Marley, Jr., William R. Nugent, and Geza T. Thuronyi.]

The American Society for Information Science held its 38th Annual Meeting at the Sheraton-Boston Hotel, Prudential Center, Boston, Mass. on October 26-30, 1975. All sessions were conducted in the hotel with exhibits in the adjacent Hynes Veterans Auditorium. The meeting, on the theme The Information Revolution, was attended by approximately 2,300 registrants.

The program included several pre-conference sessions, four general sessions, a number of special sessions, programs sponsored by the special interest groups, meetings at which contributed papers were presented, and the annual business meeting and awards banquet. Films were shown on a continuing basis in the Information Science Theater. New at the conference were poster sessions.

The exhibit area, characteristically, proved to be the gathering place. There were more exhibitors than at any recent meeting but their displays seemed less impressive, perhaps owing to economic conditions or a levelling off of development within the information industry.

The conference opened officially Monday morning, October 27, with Ruth L. Tighe of NELINET, conference chairman, presiding. Dale B. Baker of Chemical Abstract Service, society president, began his welcoming statement by calling on conference attendees to become VIP's, or Very Involved Persons, in the society's activities. Paralleling the revolution in information with the American Revolution Mr. Baker contrasted the erroneous belief of the country's forefathers that the "natural resources of this land were limitless" with the modern recognition that "information is a non-consumable resource." He closed by urging members to get on with the revolution.

The first general session, a review of a decade of innovation, 1965-1975, followed with Carlos A. Cuadra, System Development Corp., Santa Monica, Calif., presiding. Introducing the speakers, Mr. Cuadra pointed out how naive some early predictions of technical developments look 10 years later. He also pointed to accurate predictions. The first speaker, Jessica L. Harris of St. John's University, Jamaica, N.Y., speaking on "Document Description and Representation," reviewed the progress of automatic indexing, pointing out that 10 years ago providing enough material to feed in machine-readable form was very difficult but now numerous bibliographic data bases exist, including as many as six international bodies of machine-indexed information. Notwithstanding, it is still necessary to have paper tools in order to use machine data bases; the use of machine language by manual users presents difficulties because tools have been developed without recognizing that most of the use would be manual. The need for convertible language has been recognized but not effectively acted upon to date. Some switching language has been developed, a number of types of which have grown out of UNISIST, but they have not been too successful. Another problem is description of physical documents, which were not even discussed in the first five years. The key event in this area was the development of MARC.

Machine-readable data through MARC was distributed to many areas and necessitated a look at compatability. The International Standard Serial Number in 1971, a related effort not forced by MARC, was recognized as needed; now the International Standard Bibliographic Description is in MARC, all of which demonstrates that a standardization effort is workable.

Glynn Harmon, University of Texas at Austin, pointed out that a definition for the information science profession has resulted from changes in the 1960's and 1970's, with less emphasis on science and technology. Within this period, there were other competing activities; space exploration succumbed to environment concerns, pollution and natural resource shortages, as illustrated in the Second Report to the Club of Rome. Individual nations cannot solve these problems alone, so their solutions must be international in scope. Growth in the next 20 years will be influenced by multi-national corporations, which are already ahead of many individual countries in information science capabilities. Information science may

serve a useful role in this international development.

After Mr. Harmon's remarks, a member of the audience criticized the increasing emphasis on bibliography in the training of information scientists and pointed out that information specialists should not be concerned only with abstracting, indexing, and bibliographical control but should also bear the responsibility of supplying information to those who need it, of supplying data for planners, and of providing information in packages to facilitate use.

The next speaker, Martha E. Williams, University of Illinois, Urbana, speaking on the use of machine-readable data bases, described several aspects of a decade of change, including an increase in the number and size of such data bases from approximately 20 small ones in 1965 to almost 200 today (excluding private ones), of which perhaps 50 are on-line. There has been a change in funding from exclusive government support to government subsidy and from indexing and abstracting support to the present commercial services. There has been progress in the development of standards for hardware and software and a beginning of language standards. Abstracting and indexing services supporting science and technology (hard sciences, then social sciences) have expanded to the present movement toward economics, business, and even human needs. The extent of use and number of users have increased. Networks are developing and there has been a decline in unit cost.

The economic pressures which forced information analysis centers to become cost conscious and produce better services and products can be said to have moved in the right direction; however some things have gone wrong. Competition has developed between the government and private sectors and government has pulled back some of its data bases to in-house use. It is discouraging that some governmental organizations have required private support elements to use only government systems, and others have taken over private data bases and resold them for a lower price. Additional problem areas needing attention are third-party users, copyright, data rights, export-import aspects (international use), and education in which there has been too little emphasis on data base use and the need for new courses.

Barbara E. Markuson of the Indiana Cooperative Library Services Authority discussed library automation and networks as they have developed during the past 10 years. Among the correct things information scientists have done are to standardize, recognize failures and openly report on them, develop multiple attacks simultaneously on many problems, and bring major components and leaders together at critical times to draw attention to problems. An example would be the Library of Congress "redbook," *Automation and the Library of Congress*, and the early conferences on automation as well as the American Library Association conference on networks. Research and development efforts that concentrated on applied methods rather than basic research or pure research also have been important. It has been wrong, however, to accept some slogans that have become myths, such as, "information is a national resource and each citizen has a right to this national resource," "there has been an information explosion," the Federal Government has responsibility for the information field," "automate or die," and "if librarians do not do the job, someone else will."

Information specialists, she said, tend to talk too much to each other. They should make a concerted effort to gain recognition through the popular press, give more attention to the legal aspects, develop networks the public needs, not just for information science, acknowledge that most potential users come to small libraries not to the large libraries, and resist looking to the Federal Government too much for answers. Finally, it is necessary to study the social implications including the effects of automation on unemployment. Mr. Cuadra closed by discussing the developments in planning for nationwide information services and lauded the work of the National Commission on Libraries and Information Science and of other organizations that are engaged in such planning.

The keynote session Tuesday morning, October 28, addressed the subject, Toward a National Policy in Information. Introduced by Andrew A. Aines, National Science Foundation, the principal speaker was Daniel Bell, professor of sociology at Harvard University and author of *The Coming of Post-Industrial Society*. The session focused on the necessity of creating a National Institute of Information set up on the pattern of the National Institutes of Health in order to coordinate the programs of the different research institutes and to provide adequate financing for new research ideas. Placing the idea of the information revolution in a large socio-economic context, Mr. Bell argued that science is central to the future direction of society. The major problem for science is the post-industrial society with its change from a goods-producing to a service economy. One tends to think of services as repair of products, personnel services, and utilities. Increasingly, however, students of the subject are thinking more of professional services.

By the year 2000, 85 percent of human effort will be devoted to services.

A second problem, he noted, is the rise of intellectual technology against machine technology, and the third is the centrality of theoretical knowledge. A codification of theoretical knowledge becomes the central guiding factor and it becomes necessary to know why. Major industries were formerly based on the work of tinkers; now those who consider the subject are concerned more with theory. The evolution of society has seen progress from extraction to industrial production to post-industrial information, and from resources as raw materials to capital goods and knowledge.

Up to the time of the New Deal no national economic policy existed in this country; the New Deal was the beginning of an effort to manage the national economy. One of the problems now, he said, is the need for assistance in managing a national society. The proliferation of local government units results in much of the present chaos. There is no mechanism for handling information between these multiple units, and yet it is needed even more because of the increased emphasis on health, environment, pollution, energy, and so on. Man today is also on the threshhold of an international society, the beginnings of which are seen in the multi-national corporation. An international trade policy needs to be developed. The combination of information with instant communications networks, the substitution of communication for transportation, are all quite significant. There are interesting developments in international shifting of debits and credits by telecommunications.

The consequences of some of these changes are reflected in social and institutional problems. First, the centralization of society is a threat but is, at the same time, useful. Second, there is a sensory overload, as was shown in the psychological reaction of the 1960's, the dropouts, both of individuals and of society. Third, changes are needed in the structure of organizations. How will the new social system be modeled? Fourth, increasing and multiple demands result in more participation and more people demanding to have their way. Fifth, in the management of information, what is the role of government? Shall it be direct or shall it just set standards? The organizational structure of the information technology is of first priority. Telephone and radio communications were regulated from their infancy, but computers are unregulated. Should there be a single or competing systems? In 1966, the Federal Power Commission indicated that it would look into the problem but it has not done so. Why should it? Is it worthwhile to have a national information system? The speaker concluded that it not only is worthwhile but is necessary to bring order out of the present fragmented state.

Following Mr. Bell's remarks, a panel, chaired by Edwin B. Parker, professor of communication, Stanford University, discussed some of the key issues in the development of a national policy on information. Mr. Parker pointed out that because of the size of the information problem, information policy may be more important than industrial or even energy policy. Last year, the society discussed the subject, concluding that 50 percent of the gainfully employed are engaged in information activities. Also, changes in the nature of information and its availability alter relationships between political, governmental, and industrial segments. Further, the balance of power shifting from individuals to organizations is reflected in considerations of the right of privacy for individuals. There is a conflict here because industrial corporations also insist upon the right to privacy which raises the question of centralization versus decentralization. Finally, the economic implications are much broader than energy problems.

Three possible policy goals may be derived from these considerations: how to accomplish increased productivity and greater efficiency; how to make the access to information and opportunity more equitable; and how to increase incentives for more effective production.

The next panelist, Anthony G. Oettinger of Harvard University, raised other information resource policy issues. He began by using Harold Lasswell's definition of politics: who gets what, when, and how. The question is how to get information to people so they can participate effectively in society. Perhaps the search should be for a free flow of information, free in availability, free in cost. Postal and telecommunications rate setting, pricing by the U.S. Government Printing Office, implementation of guidelines given by privacy and freedom-of-information legislation, licensing of television broadcasters and CATV systems, enforcement of equal time and fairness doctrine laws or regulations, categorical or revenue-shared funding of libraries, and regulation of electronic fund transfers are among the many arenas in which national, state, and local information policies are made.

Technological and political changes in the past two decades have blurred the boundaries among these arenas and both the change and the blurring promise to continue apace. At stake are not only the informa-

tion resources available to users to meet their needs for the knowledge and the understanding required to participate fully in society but also industry accounting for not less than 10 percent and perhaps over 50 percent of the gross national product. Well over 50 percent of the labor force is engaged in service occupations which have overtaken the sum of industrial and agricultural occupations. The Harvard program on information technology and public policy aims to eliminate the policy implications of these issues.

Robert W. Cairns, American Chemical Society, pursued the subject, saying that those who practice science and technology have a large interest in the influence of the national policy—or of its absence—on their information supply. The product of science and technology in its first creation is information, and information has therefore been called the principal raw material of new science and technology. Any action, policy, or attitude that affects either the ease with which scientists and engineers can place their contribution on the record or the speed and precision with which they can retrieve a fact or an idea from that record is of prime significance to the health and progress of science and technology. Among the most significant facets of a national information policy concerning science and technology are (1) allocation of responsibility for leadership and performance between government and private sectors. What is the national interest? How are government and nongovernment views coordinated? Are the mission-oriented information services to be fostered over those of the science-disciplined (as now appears to be the case), or is there a better way? (2) With regard to the role of government subsidies, who are fit recipients? Should the role be direct or indirect? What do government subsidies buy? Page charges versus direct journal subsidy versus subsidy of users will be discussed for a long time. The hidden costs to the public in all government publishing and information dissemination programs result in unfair competition between government and private information activities. (3) What is the relationship between national research and development support and information support? Should government research and development contracts and grants include a percentage of say four percent for purchase of information and information services? Information systems require long-term support for development as well as research.

Melvin S. Day, acting director of the National Library of Medicine, reviewed some of the thinking over the past decade concerning the pros and cons of establishing a national policy in information, and Eugene Garfield, president of the Institute for Scientific Information, further elaborated on some of these points. One clear conclusion was that improvement in the quality of life will be through more equitable distribution of information and, therefore, of opportunities. Change cannot be achieved by perpetuating the information policies now in effect whereby each institution individually pursues its own goals barely coping with its own financial burdens. To deal successfully with the post-industrial revolution better training for library and information science students must be offered, adequate leadership at the national level must be provided, and the services of the professional societies which can forecast the priorities of the services to be developed must be relied on. Here the role for ASIS may be a challenging one.

General Session II on plans and funding for nationwide information programs and services, held Tuesday afternoon, was chaired by Ronald S. Miller, director of NELINET, who described policy, planning, and programming as the three key ingredients and asserted that development and operation of many library and information services in the United States are being coordinated at the national level; this introduction formed the context within which the panel members spoke. Richard W. Hays, acting director, Office of Libraries and Learning Resources, U.S. Office of Education, described that organization and its charter. He stated that its future is uncertain, however, as the current philosophy emphasizes the restriction of activities to guiding local operations and encouraging interlibrary cooperation. He referred to the Partnership Act, pointing out that it provides no long-term support and only stimulates action. There is pressure to maintain nine existing programs but no effort to determine the future role. All the office is doing is maintaining the status quo.

Hubert E. Sauter, director, Defense Documentation Center (DDC), outlined the activities of his agency and its relationship with other information centers. The DDC is a supplier of Department of Defense technical information products; therefore, his viewpoint is from the position of an operating information service. DDC is actively engaged in a planning effort to assess the adequacy of its programs and services, to project future requirements, and to plan for interfacing with other major systems. Planning for large-scale processing and dissemination systems must be conducted years in advance. National level activities in this area have not been responsive to DDC's immediate planning requirements; therefore DDC has supported interagency activity and initiated studies to

provide these requirements. DDC currently coordinates its products and services with several other agencies to assure maximum transfer of these resources to the Scientific and Information Exchange, the National Technical Information Service, and the National Space Agency. Transfer of automated files to these agencies minimizes costly processing duplication and the time lag associated with independent processing. A contract has been awarded to Auerbach Corp. to assess current and future scientific and technical information needs of the defense research and development community. It will also provide technical objectivity and priorities for planning DDC's system for the next 10 years. Interaction with technical information user groups and associations has also provided insight on the value of services and products and aided systems improvement. Coordination and standardization of national information resources is essential. Such efforts must progress rapidly to the system level, however, to facilitate resource sharing and networking responsiveness to the end user of tomorrow.

The next speaker, Lee G. Burchinal, head, Office of Science Information Services, National Science Foundation, stated that the United States has no nationally coordinated information dissemination system or plan, nor does it want one. The national plan models in other countries are not good guides and if adopted or adapted probably would be bad for this country. This does not mean the issues should be ignored, but that it is necessary to select a strategy that reflects U.S. needs. The national commissions studying the question have only created confusion. According to Mr. Burchinal, two strategies stand out. Research should be conducted to develop innovative ideas, and policies should be developed in order to establish a very broad framework. There is a lack of cohesive planning and central direction but these are not the U.S. tradition. This has been true in other areas and applies perhaps even more in the field of information. He referred to letting competiton of the market place work freely and mentioned the House Committee and the Senate Subcommittee which are studying plans. The locus for policy development however is not clear. Should it be the Congress, the Executive, or private? Little data exist on which to base planning and research to develop these data. From these assumptions one can ask these questions. What are the limits in the information science field of building systems (a paperless system)? How far should we go at the Federal level? What support should there be from the Federal level? What is the justification and need? If support is justified, to what end? To maintain the operations or stimulate developments and improvements? Depending upon the end, what means are there for Federal transfer of operations? Should there be sustained Federal support of not-for-profit operations? How much participation in the international field? The United States and the U.S.S.R., the former leaders, are declining in their dominance.

The final speaker was Douglas Price, assistant executive director, National Commission for Library and Information Science, who stated categorically that, although the United States has no national policy, it has the beginnings of a national program, that it should have such a plan, and that NCLIS is developing a plan it will recommend. He read the five assumptions from the report of the commission, *Toward a National Program for Library and Information Services: Goals for Action.* He pointed out that these provide the framework, but do not superimpose a system or force together anything. He cited the developments that government has originated and that have later become broadly accepted, such as substituting fiche for microcard, development of the selective dissemination of information (SDI) approach and current awareness, and other similar activities.

General Session III on Wednesday morning concerned microprocessors and recent technological innovations. The speakers gave persuasive evidence in support of Session Chairman William D. Mathews' (NELINET) opening assertion that "microcomputers will have more impact on information processing and distribution then any development in this decade."

The principal speaker was Hoo-min D. Toong of the Massachusetts Institute of Technology Department of Computer Science and Electrical Engineering, and director of the MIT microprocessor laboratory. He delivered two successive papers on the technology and implications of microprocessors. He showed microprocessors to be an outgrowth of the semiconductor industry wherein improved manufacturing techniques now permit inexpensive and powerful central processing units for general purpose computers to be fabricated on a single 0.2 by 0.2-inch chip by means of large scale integration (LSI).

Such chips are said to cost about 31 cents to manufacture, about $3 to package, and can be purchased for as low as $20 as compared to their very recent low price of several hundred dollars. For several hundred dollars it is now possible to buy a microcomputer kit containing the central processing unit chip as well as the LSI electronics for input-output,

interface, and some storage.

This technology is having immediate impact on the minicomputer industry where a 30 percent to 60 percent annual growth is now projected, and in a diversity of industrial applications. Applications in steelmaking and in the control of robot assembly stations in auto manufacture were described.

Tracing the development of the minicomputer industry, he described competitive benchmark tests now being run between minicomputers and medium scale conventional computers. One reason for the advantages exhibited by minicomputers is the far faster incorporation of new technology by the 40 highly competitive manufactures of minicomputers, compared to that of the few vendors of large computers where, he indicated, a policy of controlled technology was in effect, and where technology lags of five years were more common than the several months-to-one year lag usual in the case of minicomputers.

For the near future of 1980, Professor Toong projected a 10 times increase in processing speed (clock rate) and a 10 times increase in complexity for minicomputers, and a chip price that was likely to stay relatively constant. He described related memory technologies and holographic storage of particular interest as the technology approaches densities in the order of 10^{10} bits per square meter. For this decade, however, semiconductor memory is said to be the one of greatest potential. Describing some near future microcomputer applications in television sets and home appliances that he felt were both inevitable and trivial, Professor Toong challenged the computer and information science community there assembled to find and specify intelligent and beneficial uses for this new technology.

Stuart E. Madnick of the MIT Sloan School of Management presented a talk on "New Concept in Data-Base Management: Application of the New Technology." Expanding on the thoughts posited by Professor Toong that microcomputers were now moving into a new generation of computer architecture where parallel processing and networking would become more important, Professor Madnick described the new role of the service industry and quoted Jay Forrester's claim to the effect that "two thirds of the people in the country are on overhead." Citing the need for sophisticated modelling and simulation techniques, he provided illustrative queries such as "what is the effect of a $1 per barrel price increase in oil on the unemployment level in Springfield, Massachusetts?" Professor Madnick stressed the importance of information services that would be permissive to the high level of search demand corresponding to such econometric investigations and described his concept of INFOPLEX, a system of management of multiple processors and storage devices that would satisfy file management requirements through a process of information percolation through the stages of a process and which would provide automatic backup and recovery capability.

One session Wednesday afternoon was devoted to the consideration of a report on the ASIS project to investigate the planning requirements of the scientific and technical information community. The session was chaired by Harvey Marron, ASIS, the project director, who, with Joshua I. Smith, executive director, ASIS, presented the general results of the survey. They were followed by four special panelists each of whom discussed a specific area of concern: Vladimir Slamecka, Georgia Institute of Technology, fundamental research; Herbert S. White, Indiana University, applied research; Anthony Debons, University of Pittsburgh, user education; and Joseph Becker, Becker and Hayes, coordination. These presentations, as well as significant comments and questions from the audience, will be summarized as part of the forthcoming final report with recommended priorities.

Following this session was the ASIS annual business meeting presided over by Dale Baker, the outgoing president. The president, treasurer, and heads of various operational organizational units, reported on their activities. Among the significant developments during the year were increasing membership, reorganization of organization financial control, the increasing income from the publication program, and a recognition that the Boston meeting was among the best attended and with the largest number of exhibitors of almost any meeting in the memory of those present.

During the evening, the annual awards banquet was held under the guidance of Ralph E. Odette, Chemical Abstract Service, as master of ceremonies. After the dinner, awards were presented as follows: outstanding information science movie of the year, "Generative Graphics: An Interdiciplinary Communication Medium in Conference," produced by Joseph Becker (Wiley; Becker and Hayes) and Joseph Brunon (UCLA) and sponsored by the Office of Science Information Service, National Science Foundation. The film concerns the exploring of mutual goals through graphics of science information and science policy and consists of excerpts from a conference to develop a rationale for a national science and techni-

cal information research program. George Albert representing the Special Interest Group for Non-Print Media (SIG/NPM) presented the award. Two information science book awards were presented: *Dynamic Information and Library Processing* by Gerald Salton (Prentice-Hall) for 1975, and *Information Retrieval On-Line*, by F. W. Lancaster and E. G. Fayen (Wiley: Becker and Hayes) for 1974. The winner of the interchapter contest was the Pacific Northwest Chapter; best JASIS paper was awarded to Rowena Weiss Swanson of Denver University for "Performing Evaluation Studies" which appeared in the May-June 1975 issue; and the annual award of merit was given to Eugene Garfield for his lifetime of contribution to the development of and making important contributions to the whole field of information science. The banquet speaker was Jules Bergman, science editor for ABC News, who discussed the implications of information science for the post industrial age. He presented a gloomy picture of what the immediate future portends with only slight hope that in the long run the total situation will improve.

The fourth general session, held on Thursday morning, considered teleprocessing and information networks. The chairman, Walter B. Sedelow, National Science Foundation, opened by mentioning the significance of packet-switching, the uncommon carriers, and digital data service as teleprocessing alternatives, and expanding the horizons in computer-to-computer and network-to-network communications. Computer networks, stated Mr. Sedelow, have exceptionally broad social implications. Some of those implications are rather specific to the needs of scientists, others are relevant to social needs for information, education, and other forms of service delivery. Electronic encyclopedias are one kind of prospective network capability.

New ways of achieving social cooperation are among the most promising uses for networks. Some of that cooperation could include wide public participation in the setting of community goals and in the efforts to realize those goals. Other collaborative modalities relate specifically to the needs of scientific and technical personnel seeking solutions to contemporary human problems.

Nationwide networks are only one among the available options. And we may expect minicomputers and microcomputers frequently to be coupled symbiotically to large and powerful network resources. Effective and congenial design for such computer technology utilization implies, far more than formerly, total man-machine system analysis, and a markedly heightened joint effort involving computer scientists with social and behavioral scientists.

New hardware is going to provide a powerful incentive to achieve at practical costs many of the unrealized aspirations for computers which were often first expressed a decade or two ago.

The next speaker, Lawrence G. Roberts, Telenet Communications Corp., described networking options offered by packet-switching services. The years 1975-1976 will mark the initiation of public packet-switching service in many countries throughout the world. After years of development and experimentation to determine the best technology for data communications service, commercial networks designed totally for data communications based on packet-switching techniques have been decided on and will be offered commercially in the United States, the United Kingdom, Canada, France, and Japan. In most countries, these networks will be operated by the Post, Telephone, and Telegraph (PTT) or government authority; however, in the United States the Federal Communications Commission (FCC) has encouraged a competitive environment where these services will be offered by value-added carriers. Currently, Telenet Communications Corp. is the only value-added carrier authorized to provide packet-switching service within the United States, and initiated its service this past summer.

The commercial availability of a packet-switching network designed exclusively for data communications offers the user the first real option to obtain total end-to-end data communications service rather than developing a private network. The economy of sharing network service on a nationwide basis permits small and large users alike to reduce their data communications costs and improve reliability, and at the same time permits many new applications which may not have been economic before.

The session closed with a reminder from Thomas N. Pike, National Bureau of Standards, of the necessity for putting the user first in computer networking.

Other noteworthy meetings, some running concurrently with those already described, were well-attended.

The formal opening of the ASIS meeting was preceded on Sunday by a number of events including continuing education workshops, meetings of special interest groups, and a colloquium sponsored by the Office of Science Information Service, National Science Foundation.

Under the chairmanship of Larry H. Day, Bell Canada, the colloquium was aimed at work in pro-

gress by OSIS grantees. Only a very limited number of research projects were selected for this presentation, namely, those dealing with innovation in scientific and technical information and assessment of the possible impact of such innovation.

John M. Strawhorn, Capital Systems Group, discussed a project based on a survey of experts in the field concerning innovations that could improve practices in journal and monographic publishing–capture and recording of information, editorial processing, publication design, composition, reproduction, distribution, marketing, management, cost control, pricing, creation of by-products–print-on-paper alternatives to conventional publication, non-print-on-paper, and mixed-media innovations. This project has now been completed and the final report will soon be available from NTIS under the title Improving the Dissemination of Scientific and Technical Information: A Practitioner's Guide to Innovation.

Kolin K. Miek, Applied Communication Research, described a project of inquiry into such behavioral aspects of information dissemination as environment (organization, management, resources), and individual habits–only 2 percent of potential users are active information seekers. The project will also look into various channels of communication, such as impersonal (libraries, journals, etc.), inter-personal (consultants), and personal (card file, memory, personal library) channels, as well as the use of information (extraction, selection, evaluation).

Eldon Sweezy, Institute for Public Administration, reported on a study of successes and failures of new products, equipment, or services based on interviews with those who have tried to introduce such innovations. Out of 112 innovations examined, 101 proved to be failures. Among the causes of failure, technological problems appear to be predominant, while capital is the most frequent cause of failures of innovations with conventional producer industries. The failure of innovations, however, is not necessarily tragic, as a majority of the persons interviewed stated that they were not such good ideas to begin with.

As the first speaker to report on ongoing technology assessment projects, Roger Hoff, Stanford Research Institute, described a planned study on telecommunication-transportation interactions that will concentrate especially on reduction of local transportation needs by providing more advanced remote access to information on a person-to-machine and person-to-person basis.

Stephen Finemen, Gellman Research Associates, described a study of electronic transmission of scientific and technical information and the possible impact of Federal regulation in this area.

Donald Steward, Xerox Electro-Optical Systems, summarized the objectives of a project that will attempt to assess technologies related to library automation, fee vs. free services, micrographics, and copyright.

Norman Nissenorf, Forecasting International, spoke of a planned assessment of the impact of charging fees for services of public, special, school, and college libraries.

Technology assessment, it was agreed by all panelists, is not a task that can be accomplished in a single project. Its result must be reevaluated constantly as circumstances change. As recommendations are adopted, the resulting experience provides feedback that serves as input to further assessments for improved recommendations.

Lee Burchinal closed the colloquium, referring to further information in a recent NSF publication entitled *Summary of Awards FY 1975, Office of Science Information Service* (Washington, National Science Foundation, 1975, 37 p., NSF 75-31).

The special interest group on technology, information, and society, held a timely session, Copyright: a Semi-Structured Free-for-All, under the chairmanship of Thomas H. Martin, University of Southern California. Panelists were asked to give their views on copyright during the next 10 years. Leading off was Curtis Benjamin, McGraw-Hill, who began by stating that regardless of the fate of pending legislation on copyright revision there will be continuing contention over several important issues: exemptions for educational, scientific, and nonprofit use; exemptions for systematic copying for interlibrary loans; regulation of uses in computer-based systems; copyrightability of computer programs, abstracts, citations, digests, and government sponsored works; exemptions for transmissions by satellite of educational and scientific works for use by developing countries; and exemptions for input into international networks systems. Several scheduled broad-gauged studies of the impact of technology on copyright should make future discussions of these issues more informed and factual and less conjectural and opinionated and will also focus proper attention on the previous problems of maintaining the viability of certain classes of essential informational works and systems.

Michael S. Keplinger, Bureau of Standards, the next panelist, stated that the continued growth and development of computers and automated information

handling systems are having substantial effects on patterns of information dissemination. This increased level of technological development when coupled with the increasing volume of publication and variety of information sources is forcing greater levels of reliance on improved means of access to information. Library networks, computer based information retrieval systems, and complex abstracting and indexing services are being developed as a means of communicating information from the originator to the consumer of information. These trends are forcing a careful consideration of the concepts of property rights and information. The history of attempts to revise the copyright legislation, as well as the recent creation of the Commission on New Technological Uses of Copyrighted Works, are illustrations of these concerns. Questions regarding the applicability of copyright protection to computer data bases and the use of conventionally copyrighted works in information retrieval systems are crucial issues which face system designers, implementors, operators, and users. Copyright has had a significant role in the development of conventional information systems and should have a similar role in the future.

H. William Koch of the American Institute of Physics pursued the subject by pointing out that most science journal publishers in the United States are scientific societies operated on a not-for-profit basis. These societies provide diligent attention to the financial issues in copyright protection. As a consequence, their copyright position is consistent with that of commercial publishers and is strengthened by the compelling concern of publishing in moral and scientific issues. These issues have already arisen with the past republication of articles and abstracts inside and outside the United States and will become pervasive in the future operations of computerized networks for science information. Copyright has provided a simple and effective means for registering, administering, and protecting authors' rights. The rights of special interest to an author of a scientific article are his right to claim authorship and to object to any distortion, mutilation, or other alteration that would be prejudicial to his honor or reputation. Deliberate omission of authors' names in a reprint deprives those authors of the right to public recognition and authorship. Inadvertent deletion of paragraphs will sometimes distort the meaning intended by the author. Accidental errors in authors' names or in numerical data in a computerized file can make names and data irretrievable. Unnecessary and prolonged delays in abstracting U.S. physics articles by international abstracting services inhibit the recognition and utilization deserved for those articles. These experiences of AIP and its member societies demonstrate the need for the publishers, on behalf of authors, to have some legal recourse with the republisher through copyright. Barbara Ringer, Register of Copyrights, gave a status report on the current efforts to revise the copyright law and a general impression of prospects.

These presentations were followed by lively and far-ranging exchanges between the audience and panel members and between panel members. Vaguely pervading these discussions, as well as a number of others, was the feeling that there may be a major change in the page charge system, the nature of which is not too clear at this point.

A special session on U.S./U.S.S.R. relations was held on Monday afternoon. Twenty-two experts from the United States and the U.S.S.R. presented papers and discussed potential developments related to scientific and technical information services at a symposium held at Yale University earlier in October under the sponsorship of the U.S./U.S.S.R. Agreement on Cooperation in the Fields of Science and Technology. With Lee Burchinal as moderator, the two co-chairmen of that symposium, A. I. Mikhailov, VINITI, Moscow, and Derek J. de Solla Price, Yale University, presented highlights of the four-day meeting.

Professor Mikhailov, after referring briefly to a similar U.S./U.S.S.R. meeting held in Leningrad on the theme of cost-benefit analysis, offered some critical comments on the Princeton meeting. His main objection was that the scope of the papers presented was too narrow and failed to come to grips with the main theme of the colloquium, which was to present models capable of projecting developments in information technology and services in order to create a basis for planning manpower and equipment requirments.

Professor Price named the individual papers presented at the Princeton symposium and reviewed them critically.

A controversy arose between the two panelists concerning the purpose and limitations of technology assessment and forecasting in the field of information processing. While Professor Mikhailov contended that the ultimate goal of such assessment and forecasting must be to evaluate the usefulness of information in terms of its contribution to the economy and to production, Professor Price felt that it is too difficult to develop models for such remote benefits (this has

been tried in the United States and abandoned), and that more limited models should be sought after.

It was announced that the U.S./U.S.S.R. cooperative effort will continue, the two separate areas of cost-benefit analysis and technology assessment and forecasting will be combined, the colloquium format will be abandoned and replaced by one-to-one contacts, and work will concentrate on the coordination of secondary services. The problem remains of how to translate results of this effort into national policy.

Consecutive sessions on the application of information science to the legislative process at the state and national levels were held Tuesday afternoon. The first, moderated by Signe Larson, U.S. Department of the Interior, dealt with state legislative information systems and services. An overview of the use of computers by state legislatures was given by James Elkins, University of Georgia, who outlined the most widely used applications as statutory retrieval, bill drafting, bill status reporting, and photocomposition printing as well as the use of computerized fiscal budgetary systems which is receiving increasing attention by state legislatures. He closed by making brief comments on the use of computerized systems by each of the 50 states. Dosier Johnson, of Florida, described present and future legislative data processing in the state of Florida. He stated that the on-line information systems for bill status, appropriations, lobbyist registration, roll call vote recording, text processing for bill preparation, statute and index update, fiscal accounting, and full text search of the Florida statutes, are underway. Plans for future developments include extending the photocomposition activities, on-line graphics, automated roll call vote capturing via cassette tape terminal, legal research system, and financial/economic modeling. Thomas Weiland described legislative text editing by computer in the state of Wisconsin.

The second meeting was about information support for Congress. The moderator was Robert L. Chartrand of the Congressional Research Service, Library of Congress, who described the role of information in congressional decision making as having attained an unprecedented degree of attention and support reflected particularly in the emphasis now placed on utilizing advanced information tools and techniques. He gave an overview of these information resources, files, man-machine retrieval techniques, and services, to which members and committees now have access, and commented on the legislative branch groups responsible for design and operation. W. Thomas Hagenstad of the General Accounting Office described the origin, function, and developments in that agency. The General Accounting Office was established over 50 years ago, as an auditing arm of the Congress. Its purpose is to insure that Government operations and programs are performed in an efficient and economical manner. During GAO's existence additional duties and responsibilities have been assigned by the Congress which have thrust GAO into formal planning areas as well as after-the-fact audits. In particular, the Legislative Reorganization Act of 1970 mandated GAO to be the major planning arm of Congress in developing fiscal and budgetary information systems. These systems also required development and maintenance of standardized program classifications and standardized information and data processing systems in the Federal agencies. GAO's program analysis and systems development effort was strengthened by the Congressional Budget Act of 1974. GAO must not only review and evaluate the sources of Government program activities but also work with committees in developing statements of legislative objectives and mechanisms that will relate program performance to those objectives. GAO is also working with the Office of Management and Budget, the Secretary of the Treasury, and the Congressional Budget Office in improving the availability and use by the Congress of Federal fiscal, budgetary, and program related data and information. In developing these elements of system planning, concept and design are used, a relatively new and positive role for GAO.

Anthony L. Harvey of the Subcommittee on Computer Services, Committee on Rules and Administration of the U.S. Senate, described the support of the legislative task of senators and their committees. Under the direction of the Senate Committee on Rules and Administration and of its Subcommittee on Computer Services, a broad range of automated capabilities is being planned and implemented to provide direct support to the legislative task of senators and their committees. Working cooperatively with the House of Representatives and the Library of Congress, legislative information files have been developed for direct use of display and for the terminals in members' offices, committees, and in the office of the Secretary of the Senate. Related information systems are available from outside sources, such as the N.Y. Times Information Bank. Additional Congressional information requirements are now being assessed. Some will be developed by the Senate, the House, and the Library of Congress as part of an expanded legislative data base; others will be con-

tracted for. Equally important to these broadly disseminated information services are Senate committee information processing requirements. These are presently being met by automated and microform systems processed in the Senate, at the Library, and on outside systems.

A session on Retrieval Vocabularies: Indexing, Switching Mechanisms, and Text Manipulation, chaired by Richard S. Glantz, IMLAC Corp., had several provocative papers including one on "Passage Retrieval for Scientists" by John O'Connor, Lehigh University, in which he predicted that in the future the researcher may have access to the specific passages of text in answer to a question rather than merely references.

A paper on "A System for Automatic Indexing and Keyword Translation as the Basis for International Cooperation" was given by Odd Brisner of the Norwegian Centre for Informatics. Mr. Brisner described promising results for the application of automatic indexing. Mr. and Mrs. Brisner were visitors at the Library of Congress in early November, and ISO staff had the opportunity to discuss their results with them.

Richard S. Marcus of the MIT Electronic Systems Laboratory presented a paper on "Networking Information Retrieval Systems Using Computer Interfaces." This described an MIT-produced interface called CONIT (Connector for Networked Information Transfer), in which a plurality of retrieval systems using different command languages were made accessible through a common access language. The principles and results described have strong bearing on the problem of accessing several diverse service bureaus and data bases from one terminal using one search system.

A similar session on pricing, a rational mechanism for allocating information, was chaired by Harold Segal, U.S. Civil Service Commission, at which talks were presented by Gary Bearden of Tenneco Corp. and by William R. Nugent of the Library of Congress.

Mr. Bearden's talk was on "Pricing/Costing–Two Alternatives for Resource Control." He described the principles of costing and chargeback pricing that he has found productive in Government and industry. He distinguished between long-term users and short-term users of computer based information systems and described their respective economic characteristics and impact on the system. He showed that the long-term user primarily affects the cost of the system whereas the short-term user primarily affects the quality of the system.

Mr. Nugent's talk was on "Price Theory for Federal Computer Information Services." He explained why the classical microeconomic theory did not prove useful in costing or pricing information services. He showed that there were major differences in the economic properties of information products and services, with respect to those of manufactured goods which are the usual basis of price theory. Among these properties were resource indivisibilities in the production process of information, uncertainty of utility of the end product, and externalities that obviated the use of a simple market model. Mr. Nugent developed a case for the use of average costs rather than marginal costs in the pricing of computer information services. With respect to science and technology information services, he showed the role of scientific and technical information in the national economy, discussed the annual investment levels of the public and private sectors in scientific and technical information-related activities, and discussed considerations of such information as a public good.

As an innovation, the ASIS introduced a special mode of paper presentation at this annual meeting: the poster session. Successfully used by other organizations, this technique had not been tried by ASIS before. Instead of reading their papers in the conventional way, some of the authors agreed to prepare visual displays conveying the essence of their papers. These displays were mounted on 4- by 8-foot bulletin boards in a room reserved for this purpose, and remained on view for six hours. The authors were further required to be present at their poster for a one-hour period designated in advance and listed in the program.

Poster sessions were scheduled on two days of the conference and 32 papers were presented in this format, including two by staff members of the Library of Congress: Development of Automated Systems at the Division for the Blind and Physically Handicapped at the Library of Congress by Karen Emmons and Morton H. Friedman, DBPH, and Bibliography: Regional or Discipline-oriented? by Geza T. Thuronyi, Science and Technology Division.

It appears that the poster sessions generally fulfilled the expectations of the organizers. Questions were asked, interest shown, comments made by an encouraging number of conference participants, and authors availed themselves of the opportunity to expand on their work. By providing random access to the papers, this method of presentation proved much less time-consuming for the public than the conventional platform presentation. Interchanges tended to

be more satisfying in terms of the participants' specific interests.

On the negative side, some of the authors had prepared posters with no visual concept and excessive amounts of text which could not be read from a distance. This can be avoided in the future by more detailed instructions to authors.

Mr. Friedman also presided over a program on issues in management. The keynote talk presented by John Bray, vice-president of the Forum Corp., dealt with the exceptional manager. Mr. Bray elaborated on his theme of how quality managers operate by summarizing his own findings and that of other experts. His opinions on the quality of management ability and characteristics generated a good deal of discussion because his approach differs from that of most leading theoreticians.

A panel of noted librarians discussed specific library management problems. James Riley, executive secretary, Federal Library Committee, spoke on issues of management in Federal systems; Herbert Landau, senior consultant, Auerbach Corp. discussed management in information centers; and Barbara Markuson described management in network systems.

Over 200 persons attended the standing room only session although only 40 to 50 were expected. User response forms were distributed to the audience in advance of the speeches. The completed forms verified that ASIS members enjoyed the meeting and gave all of the speakers favorable comments. Furthermore, a vast majority requested that sessions in all aspects of management are desirable at future ASIS meetings. Many questions from the floor and controversial responses from the speakers generated interest and active participation by members of the audience.

As a consequence of this meeting and the many favorable comments, a Special Interest Group for Management of Information Activities (SIG/MGT) will be organized within ASIS. Over 200 people, or about 10 percent of the conference attendance, have signed an intent-to-join form.